

Application No. 10/660,649

IN THE DRAWINGS:

Please replace Figures 4 and 5 as originally filed with this application. Enclosed are two (2) replacement sheets for Figures 4 and 5, respectively, accompanied by a Letter to the Official Draftsperson. Figures 4 and 5 have been amended to show numeral 239, as required by the Examiner.

REMARKS

Claim Rejections

Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoshino (U.S. Pat. 6,759,642) and further in view of Segawa et al (U.S. Pub. 2002/0057468 A1).

Drawings

Applicant has amended Figures 4 and 5, as illustrated on the attached replacement sheet, accompanied by a LETTER TO THE OFFICIAL DRAFTSPERSON. Figures 4 and 5 have been amended to show numeral 239, as required by the Examiner. No "new matter" has been added to the original disclosure by the amendments to these figures. Entry of the corrected replacement sheets is respectfully requested.

Claim Amendments

By this Amendment, Applicant has canceled claim 13 and has amended claims 1 and 6 of this application. Claim 1 has been amended to include the limitations of cancelled claim 13, as well as to better protect what Applicant regards as the invention. It is believed that the amended claims specifically set forth each element of Applicant's invention in full compliance with 35 U.S.C. § 112, and define subject matter that is patentably distinguishable over the cited prior art, taken individually or in combination.

The amended claims are directed toward: a thin type camera module comprising: a fixing board ***having a top surface and a recession indented from the top surface, wherein the recession having an undersurface***; an imaging-sensing semiconductor assembly comprising a COF (chip-on film) wiring film and an image sensing chip, wherein the COF wiring film has a surface, a window and a plurality of connecting ends disposed on the surface of the COF wiring film around the window, the image sensing chip has a photosensitive surface corresponding to the window and ***a bottom surface attached to the undersurface of the recession***, and a plurality of bumps are formed on peripherals of the photosensitive surface, the image sensing chip is flip-chip mounted on the COF

wiring film to electrically connect the bumps with the connecting ends; and a lens holder for connecting a camera lens, wherein the lens holder has a light-pervious channel and is connected with the fixing board to form an airtight space for sealing the image sensing chip, and the photosensitive surface of the image sensing chip is corresponding to the light-pervious channel for capturing image.

Hoshino teaches a camera module 2 connected to a system module 3 by a connector 4. Lens 20 is mounted to mirror barrel 19 which is mounted to light transmission board 10. It is important to note that both light transmission board 10 and wiring board 5 are continuous flat surfaces lacking recessions. As a result, the reference does not teach that the bottom surface of the camera module is mounted to the undersurface of a recession in either structure. Furthermore, as noted by the Examiner on p. 4 of the outstanding Office Action, "Hoshino does not explicitly disclose a lens holder connected a fixing board."

Segawa et al. is cited as providing this deficiency. Segawa et al. teach a lens holder 13 engaged with a connector 12 to maintain the lens 5. The lens holder 13 is connected to module substrate 1 by connectors 12. It is important to note that module substrate 1 is shown as being a continuous flat surface which lacks any indentations. Furthermore, the lens holder 13 is shown in Figs. 1-4 as being mounted to an upper surface of the module substrate 1.

It follows that Segawa et al. does not teach: a thin type camera module comprising: a fixing board having a top surface and a recession indented from the top surface, wherein the recession having an undersurface; an imaging-sensing semiconductor assembly comprising a COF (chip-on film) wiring film and an image sensing chip, wherein the COF wiring film has a surface, a window and a plurality of connecting ends disposed on the surface of the COF wiring film around the window, the image sensing chip has a photosensitive surface corresponding to the window and a bottom surface attached to the undersurface of the recession, and a plurality of bumps are formed on peripherals of the photosensitive surface, the image sensing chip is flip-chip mounted on the COF wiring film to electrically connect the bumps with the connecting ends; and a lens holder for connecting a camera lens, wherein the lens holder has a light-pervious channel and is connected with the fixing board to form an airtight space for sealing the image sensing chip,

and the photosensitive surface of the image sensing chip is corresponding to the light-pervious channel for capturing image.

Accordingly, even if the teachings of Hoshino and Segawa et al. were combined, as suggested by the Examiner, the resultant combination does not suggest: a thin type camera module comprising: a fixing board having a top surface and a recession indented from the top surface, wherein the recession having an undersurface; an imaging-sensing semiconductor assembly comprising a COF (chip-on film) wiring film and an image sensing chip, wherein the COF wiring film has a surface, a window and a plurality of connecting ends disposed on the surface of the COF wiring film around the window, the image sensing chip has a photosensitive surface corresponding to the window and a bottom surface attached to the undersurface of the recession, and a plurality of bumps are formed on peripherals of the photosensitive surface, the image sensing chip is flip-chip mounted on the COF wiring film to electrically connect the bumps with the connecting ends; and a lens holder for connecting a camera lens, wherein the lens holder has a light-pervious channel and is connected with the fixing board to form an airtight space for sealing the image sensing chip, and the photosensitive surface of the image sensing chip is corresponding to the light-pervious channel for capturing image, wherein the fixing board has a recession for locating the image sensing chip.

It is a basic principle of U.S. patent law that it is improper to arbitrarily pick and choose prior art patents and combine selected portions of the selected patents on the basis of Applicant's disclosure to create a hypothetical combination which allegedly renders a claim obvious, unless there is some direction in the selected prior art patents to combine the selected teachings in a manner so as to negate the patentability of the claimed subject matter. This principle was enunciated over 40 years ago by the Court of Customs and Patent Appeals in In re Rothermel and Waddell, 125 USPQ 328 (CCPA 1960) wherein the court stated, at page 331:

The examiner and the board in rejecting the appealed claims did so by what appears to us to be a piecemeal reconstruction of the prior art patents in the light of appellants' disclosure. ... It is easy now to attribute to this prior art the knowledge which was first made available by appellants and then to assume that

it would have been obvious to one having the ordinary skill in the art to make these suggested reconstructions. While such a reconstruction of the art may be an alluring way to rationalize a rejection of the claims, it is not the type of rejection which the statute authorizes.

The same conclusion was later reached by the Court of Appeals for the Federal Circuit in Orthopedic Equipment Company Inc. v. United States, 217 USPQ 193 (Fed.Cir. 1983). In that decision, the court stated, at page 199:

As has been previously explained, the available art shows each of the elements of the claims in suit. Armed with this information, would it then be non-obvious to this person of ordinary skill in the art to coordinate these elements in the same manner as the claims in suit? The difficulty which attaches to all honest attempts to answer this question can be attributed to the strong temptation to rely on hindsight while undertaking this evaluation. It is wrong to use the patent in suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit. Monday morning quarterbacking is quite improper when resolving the question of non-obviousness in a court of law.

In In re Geiger, 2 USPQ2d, 1276 (Fed.Cir. 1987) the court stated, at page 1278:

We agree with appellant that the PTO has failed to establish a *prima facie* case of obviousness. Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching suggestion or incentive supporting the combination.

Applicant submits that there is not the slightest suggestion in either Hoshino or Segawa et al. that their respective teachings may be combined as suggested by the Examiner. Case law is clear that, absent any such teaching or suggestion in the prior art, such a combination cannot be made under 35 U.S.C. § 103.

Neither Hoshino nor Segawa et al. disclose, or suggest a modification of their specifically disclosed structures that would lead one having ordinary skill in the art to arrive at Applicant's claimed structure. Applicant hereby respectfully submits that no combination of the cited prior art renders obvious Applicant's amended claims.

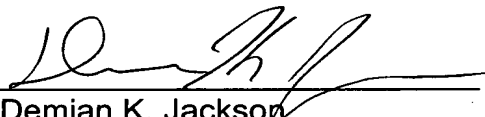
Summary

In view of the foregoing amendments and remarks, Applicant submits that this application is now in condition for allowance and such action is respectfully requested. Should any points remain in issue, which the Examiner feels could best be resolved by either a personal or a telephone interview, it is urged that Applicant's local attorney be contacted at the exchange listed below.

Respectfully submitted,

Date: March 14, 2007

By:


Demian K. Jackson
Reg. No. 57,551

TROXELL LAW OFFICE PLLC
5205 Leesburg Pike, Suite 1404
Falls Church, Virginia 22041
Telephone: 703 575-2711
Telefax: 703 575-2707

CUSTOMER NUMBER: 40144